

THE INVENTION CLAIMED IS:

1. A trolley system for positioning the door of a railway boxcar to cover or uncover an opening in a wall of the railway boxcar comprising:
 - a) an upper track mounted upon the railway boxcar;
 - b) an upper trolley having a body with at least one roller rotatably secured therein, wherein the at least one roller of the upper trolley co-acts with the track; and
 - c) a safety plate connected to the railway boxcar and positioned above and adjacent to the at least one roller of the upper trolley, wherein the plate physically limits the vertical movement of the roller in the upper trolley to prevent derailment of the upper trolley roller from the upper track.
2. The trolley system according to claim 1, wherein the at least one roller has a concave outer surface and the upper track has a convex outer surface which mates with the roller outer surface.
3. The trolley system according to claim 2, wherein the at least one roller has a U-shaped outer surface and the track has a mating U-shaped outer surface.
4. The trolley system according to claim 3, wherein the plate includes a projection extending from the top of the plate downwardly to at least partially enter the groove and to limit the vertical displacement of the roller.
5. The trolley system according to claim 3, wherein the at least one roller has a curved outer edge and the track portion in contact with the upper trolley is U-shaped.
6. The trolley system according to claim 2, wherein the plate defines in conjunction with the roller a vertical distance which is less than the vertical distance that would permit the roller and track to become disengaged.
7. The trolley system according to claim 6, wherein the plate further extends to generally enclose the upper trolley to act as a safety shield and to protect against the weather.

8. The trolley system according to claim 1, further including a door and a lower guide, wherein the lower guide directs the travel of the door along a path identical to that in which the upper trolley directs the door.

9. The trolley system according to claim 8, wherein the upper trolley and lower guide are connected directly to the door.

10. The trolley system according to claim 9, wherein:

a) the system further includes a lower track mounted upon the railway boxcar below the door opening;

b) the lower guide is a lower trolley having a body with at least one roller rotatably secured therein, and wherein the at least one roller of the lower trolley co-acts with the lower track; and

c) a safety plate connected to the railway boxcar and positioned above and adjacent to the at least one roller of the upper trolley, and wherein the plate physically limits the vertical movement of the upper trolley to prevent derailment of the upper trolley from the upper track.

11. The trolley system according to claim 8, further including a support member connecting the upper trolley and lower guide, and wherein the door is connected to the support member.

12. The trolley system according to claim 11, wherein:

a) the system further includes a lower track mounted upon the railway boxcar below the door opening;

b) the lower guide is a lower trolley having a body with at least one roller rotatably secured therein, and wherein the at least one roller of the lower trolley co-acts with the lower track; and

c) a safety plate connected to the railway boxcar and positioned above and adjacent to the at least one roller of the lower trolley, and wherein the plate physically limits the vertical movement of the lower trolley to prevent derailment of the lower trolley from the upper track.

13. The trolley system according to claim 11, further including at least one axial guide between the door and the support member to permit axial movement of the door in a direction perpendicular to the plane of the door to plug or unplug the door opening.

14. The trolley system according to claim 11, wherein the support member further includes a pivot guide for imparting to the support member an arcuate motion which is also imparted to the door to plug and unplug the door opening.

15. The trolley system according to claim 14, wherein the pivot guide is an offset arm extending from the body of the upper trolley to the support member.

16. The trolley system according to claim 15, wherein the offset arm is secured to the body of the upper trolley by a kingpin extending through both the offset arm and the body of the upper trolley.

17. The trolley system according to claim 16, wherein the offset arm provides an arcuate motion to the door such that rotation of the support member by approximately 30 degrees will move the door to plug and to unplug the door opening.

18. The trolley system according to claim 14, further including a recess within the door to accommodate the support member thereby minimizing the distance the support member extends away from the railway boxcar.

19. The trolley system according to claim 8, wherein the upper trolley body further includes a limit arm to limit the travel of the door from the closed to the open position.

20. The trolley system according to claim 8, further including a safety arm supported by the boxcar door, wherein the safety arm has an overhung portion which is positioned vertically above the upper track such that the safety arm will engage the upper track or a platform supporting the track if the door drops.

21. A railway boxcar, comprising:

a) a base;

- b) railway boxcar rollers secured to the base;
- c) an enclosure attached to the base, wherein the enclosure has a door opening;
- d) an upper track mounted upon the railway boxcar;
- e) an upper trolley having a body with at least one roller rotatably secured therein, wherein the at least one roller of the upper trolley co-acts with the track;
- f) a plate surrounding the upper trolley and upper track, wherein the plate physically limits the vertical movement of the upper trolley to prevent derailment of the upper trolley from the upper track;
- g) a lower guide which directs the travel of the door along a path identical to that in which the upper trolley directs the door;
- h) a frame attached to the upper trolley and the lower guide;
- i) a door attached to the frame, the door adapted to move axially relative to the frame, the door when aligned with the door opening adapted to move axially in a first position to seal the door opening and prevent movement of the frame relative to the tracks and when the door is axially moved to a second position, the door is adapted to move away from the door opening so that the frame and door may move laterally along the tracks to expose the door opening; and
- j) a crank co-acting with the frame and the door to move the door in the first position and the second position.

22. A kit for assembling a trolley system for positioning the door of a railway boxcar to cover or uncover an opening in a wall of the railway boxcar comprising:

- a) an upper track adapted to be mounted upon the railway boxcar;
- b) an upper trolley having a body with at least one roller rotatably secured therein, wherein the at least one roller of the upper trolley is adapted to co-act with the track; and
- c) a safety plate adapted to be connected to the railway boxcar and positioned above and adjacent to the at least one roller of the upper trolley, wherein the plate is positioned to physically limit the vertical movement of the roller in the upper trolley to prevent derailment of the upper trolley roller from the upper track.

23. The kit according to claim 22, further including a lower guide adapted to be mounted upon the railway boxcar below the door opening, wherein the lower guide is

adapted to direct the travel of the door along a path identical to that in which the upper trolley directs the door.

24. The kit according to claim 23, further including a support member connecting the upper trolley and the lower guide, wherein the support member is adapted to be connected with the door.

25. A method of retrofitting a boxcar with a trolley system for positioning the door of a railway boxcar to cover or uncover an opening in a wall of the railway boxcar comprising the steps of:

- a) securing an upper track to the boxcar;
- b) positioning an upper trolley upon the upper track, wherein the upper trolley has a body with at least one roller rotatably secured therein and wherein the at least one roller of the upper trolley is adapted to co-act with the track;
- c) securing the door to the upper trolley; and
- d) securing a safety plate to the railway boxcar positioned above and adjacent to the at least one roller of the upper trolley, wherein the plate is positioned to physically limit the vertical movement of the roller in the upper trolley to prevent derailment of the upper trolley roller from the upper track.

26. The method according to claim 25, further including the step of securing a lower guide to the railway car, wherein the lower guide is connected to the upper trolley to direct the travel of the door along a path identical to that in which the upper trolley directs the door.